

Name:

## **CRACKING THE METHOD: Scientific Serves**

Jim, Jody, and Juan, all seventh graders, love to play tennis and are interested in forming a school sponsored tennis team. To do so, they decide to hold tennis practice sessions after school every day. Mr. H, Mr. W, and Mr. F agree to hold tryouts at the end of October. Seeing as how this was their idea, Jim, Jody, and Juan want to make sure they make the team. To ensure their placement on the team, they test to see which brand of tennis ball helps produce the fastest serve to give them an advantage over the other players. Before completing the experiment, they all think that brand X tennis balls will bounce the highest because they are the hardest to squeeze. Using brand X, Y and Z tennis balls, they decided to drop each ball from 15 meters above the ground onto a clay tennis court. They measured the height that each ball bounces and record this value in their data table. Jim, Jody and Juan complete five trials for each tennis ball and record an average height in their data table.

1. What is the question they are investigating?
2. What is the independent (manipulated or experimental) variable in the experiment?
3. What is the dependent (responding) variable in the experiment?
4. Name three constants (controls) involved in the experiment.
5. According to the passage, what was their hypothesis?

## Perfect Pumpkins

Alberta, Megan, and Tom are trying to grow the largest pumpkin for the state fair. They decide to use the greenhouse behind Mr. E's room. They want to test which type of soil is best suited for growing pumpkins. Alberta, Megan and Tom decide that if they can determine which type of soil is best suited to grow pumpkins, they will win the blue ribbon. Before completing the tests, they all think that potting soil will work best because it contains plenty of organic material, which helps the soil hold water. They plant pumpkin seeds in regular dirt dug from behind the school, sandy soil found at Megan's house, and store-bought potting soil. They fill three clay pots with the regular dirt and label them Pot A, Pot B, and Pot C. They also fill three clay pots with the sandy soil and label them Pot A, Pot B, and Pot C. Finally, they fill three clay pots with the potting soil and label them Pot A, Pot B, and Pot C. In each pot, they plant the same species of pumpkin seed, water them with the same amount of water, and place them in the greenhouse so that they all get the same amount of sunlight. After the pumpkins grow, they measure how much each pumpkin weighs from each type of soil and record their findings.

6. What is the question they are investigating?

7. What is the independent (manipulated or experimental) variable in the experiment?

8. What is the dependent (responding) variable in the experiment?

9. Name three controls (constants) involved in the experiment.

10. According to the passage, what was their hypothesis?

**Finally, write out a procedure for this lab.** Be detailed with step by step of what to do in this planting pumpkins lab. Include a materials list. (Write on a sheet of loose leaf paper and staple to this sheet)